



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,319	08/10/2001	Junji Kashioka	1619.1013	6121
21171	7590	08/25/2004		
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			EXAMINER CHANG, JON CARLTON	
			ART UNIT 2623	PAPER NUMBER

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/925,319

Applicant(s)

KASHIOKA ET AL.

Examiner

Jon Chang

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,4-6,11,12 and 14 is/are rejected.
- 7) ☒ Claim(s) 2,3,7-10,13 and 15 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claim Objections

1. Claims 7, 11, 12 and 14 are objected to because of the following informalities:

In claim 7, line 3, "for other character pattern" is not grammatically correct.

There may be some word or words missing. See also claims 11 and 12.

In claim 7, lines 3-4, "said character recognition result is exchanged by said other character" is not clear. Also, "said other character" lacks clear antecedent basis.

In claim 14, at line 3, "implemmented" should be corrected.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 5 and 11 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 5 and 11 are drawn to "programs", i.e., computer programs.

Computer programs *per se*, are not considered statutory subject matter. Note the difference between claim 5 or 11, and claim 6 or 12. Claims 6 and 12 are directed toward computer readable recording medium. Computer readable recording media are manufactures and therefore statutory.

Claim Rejections - 35 USC § 112

4. Claims 6 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 6 and 12 each recite a "computer readable recording medium...comprising the functions of..." It does not make sense for a medium to comprise functions. The Examiner suggests the claims be amended as follows to avoid this rejection. 1) The claim be drawn to a computer readable recording medium, 2) a computer program is stored on the medium, 3) the program causes the computer to perform a character recognition method, 4) and that the method comprises the recited steps.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any

Art Unit: 2623

inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1, 4-6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants' admitted prior art (hereinafter "admitted prior art") in view of U.S. Patent 6,539,113 to Van Kleeck.

As to claim 1, the admitted prior art discloses a character recognition method for recognizing characters entered in a document or the like including preprint information, wherein an image is obtained by reading said preprint information and entry characters (Fig.28; page 1, last paragraph to page 2, first paragraph; the preprint information and entry characters are read prior to deleting of the preprint information). The admitted prior art does not disclose the steps of: dividing an image in an area where the characters to be recognized are present into line segments individually, creating a recognition image by changing a combination of a plurality of line segments divided; memorizing a recognition result with reliability by making the character recognition for said created recognition image; and outputting the recognition result having a greatest reliability by making the character recognition for all the combinations while changing said combination of line segments successively. However, this is well

known in the art as evidenced by Van Kleeck. Van Kleeck teaches: dividing an image in an area where the characters to be recognized are present into line segments individually (column 16, lines 56-57), creating a recognition image by changing a combination of a plurality of line segments divided (column 6, lines 63-67); memorizing a recognition result with reliability by making the character recognition for said created recognition image (column 17, lines 21-27; memorizing is inherent since a plurality of combinations is made, and the result with the highest probability is utilized, column 17, lines 55-57); and outputting the recognition result having a greatest reliability by making the character recognition for all the combinations while changing said combination of line segments successively (column 17, lines 55-57). Van Kleeck's technique attains higher accuracy over conventional systems, and is fully extensible. Therefore, it would have been obvious to one of ordinary skill in the art to modify the admitted prior art according to Van Kleeck's teaching.

As to claim 4, Van Kleeck further teaches the step of removing beforehand the line segments with small line width from among the line segments contained in the image within said recognition area (column 16, lines 48-50; the "hook" has a small line width as seen in Fig.9B).

Claim 5 is drawn to a "program" corresponding to the method of claim 1. The discussion provided above for claim 1 is applicable. The admitted prior art does not disclose a program for implementing the method. However, it is well to utilize computer programs to implement character recognition. For example, Van

Art Unit: 2623

Kleeck teaches this (column 5, lines 17-21). It would have been obvious to one of ordinary skill in the art to implement the method of the admitted prior art as modified by Van Kleeck, in a computer program because of the flexibility offered by such a program (e.g., programs are easily modified).

Claim 6 is drawn to a computer readable recording medium storing a character recognition program, corresponding to the method of claim 1. The discussions provided above for claims 1 and 5 are applicable. Van Kleeck further teaches the computer readable recording medium (i.e., the memory, column 5, line 19).

As to claim 14, Van Kleeck further teaches that when the image within the recognition area is divided into line segments individually, the combination of line segments is implemented without including the line segment with the endpoint at one end and having short length in the combination (e.g., a hook, which is a line segment having a short length, is removed, column 16, lines 48-50, and is therefore not included in the combinations).

Subject Matter Not Found in the Prior Art

8. The subject matter of claim 11 has not been found in the prior art. However, since it is directed to nonstatutory subject matter, allowability cannot be indicated.

Allowable Subject Matter

9. Claim 12 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
10. Claims 2-3, 7-10, 13 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

References Cited

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 5,018,216 to Kojima discloses a method of extracting a feature of a character, which divides a contour image of a character into a plurality of segments by a pair of dividing lines, divides the segments into sub-segments, combining the sub-segments, and extracting features of the combined sub-segments.

U.S. Patent 5,577,135 to Grajski et al. discloses a handwriting signal processing front-end for handwriting recognizers which segments strokes into an ordered set of non-uniform segments.

U.S. Patent 5,579,408 to Sakaguchi et al. discloses a character recognition method and apparatus which divides a character image to be recognized into a single or plurality of partial patterns. A partial pattern composition dictionary is searched using the partial patterns.

U.S. Patent 5,610,996 to Eleer discloses a method and apparatus for arc segmentation in handwriting recognition. Handwritten data is smoothed and segmented into arcs (arcs are derived, not actually part of the handwritten characters). Recognition is carried out by comparing the data points representing the arcs with arcs of reference characters.

U.S. Patent Application Publication 2003/0113019 to Nakagawa discloses a method for recognizing characters which overlap lines of an entry box.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon Chang whose telephone number is (703)305-8439. The examiner can normally be reached on M-F 8:00 a.m.-6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703)308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2623

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jon Chang
Primary Examiner
Art Unit 2623

Jon Chang
August 23, 2004